

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Effects of a traditional Chinese mind-body exercise, Baduanjin, on the physical and cognitive functions in the community of older adults with cognitive frailty: study protocol for a randomized controlled trial.
AUTHORS	Xia, Rui; Wan, Mingyue; Lin, Huiying; Qiu, Pingting; Ye, Yu; He, Jianquan; Yin, Lianhua; Tao, Jing; Chen, Lidian; ZHENG, Guohua

VERSION 1 – REVIEW

REVIEWER	Asangaedem Akpan University of Liverpool and Liverpool University Hospitals NHS Foundation Trust United Kingdom
REVIEW RETURNED	17-Jan-2020

GENERAL COMMENTS	Your protocol is very interesting and will generate new knowledge once you have completed your study. I noted several minor grammatical errors and wrong use of tenses throughout your manuscript. Please liaise with someone who can help you correct this as the scientific reasoning you give is strong and your manuscript will read much better once these are corrected. Avoid using the terms 'elderly'. Older people is the preferred term. Avoid using the term 'senile'. This is no longer an acceptable term to be used. Please clarify the need to have both ventricular infarction and coronary artery disease as exclusion criteria as coronary artery disease will cover both.
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REVIEWER	Veronika van der Wardt Philipps-Universität Marburg Germany
REVIEW RETURNED	29-Jan-2020

GENERAL COMMENTS	Good study but the protocol needs some work: Major issues: The language (grammar, typos, tenses) needs improvement. People with cognitive frailty should be referred to as such (person first language). The background, purpose, hypothesis and Analysis for the MRI study part needs to be described in more detail. Withdrawal criteria need more detailed definitions AEs and SAEs need clarification: how are they monitored, definitions need to be added, how will it be determined if they are related or unrelated to the intervention? In the Analysis section, the analysis plan needs more detail and the approach for missing data needs to be included. The Discussion section should be shortened
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	<p>While the study is already ongoing, the research group might consider organizing an independent Steering Group Committee to support the research (unless it has one, then it should be reported).</p> <p>Minor issues:</p> <p>Baduanjin and Qi should be described in more detail, how it qualifies as aerobic exercise and what benefits it has.</p> <p>There is a discrepancy between abstract and description of the in-between follow-up point of time on page 5 (13weeks vs 17 weeks).</p> <p>Needs clarification</p> <p>Page 5: diagnostic criteria: how is cognitive decline according to age and education assessed?</p> <p>Page 6: who will complete recruitment and screening?</p> <p>Page 6: where will assessments take place?</p> <p>What do 'basic characteristics' refer to?</p> <p>Page 8: Primary outcomes: EFS score of 5 should be classified as non-frail; 6 or above can be classified as frail. Why is this classified and not reported as continuous variable or in the categories as reported by the scale developers?</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Asangaedem Akpan

Institution and Country:

University of Liverpool and Liverpool University Hospitals NHS Foundation Trust

United Kingdom

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Dear Authors,

Your protocol is very interesting and will generate new knowledge once you have completed your study.

I noted several minor grammatical errors and wrong use of tenses throughout your manuscript.

Please liaise with someone who can help you correct this as the scientific reasoning you give is strong and your manuscript will read much better once these are corrected.

Author's response: Thank you for your comments. We committed our manuscript to American Journal Experts to professionally edit the phrasing and grammar. Thanks!

Avoid using the terms 'elderly'. Older people is the preferred term.

Avoid using the term 'senile'. This is no longer an acceptable term to be used.

Author's response: Thank you for your comments. We have replaced these two words with "older people".

Please clarify the need to have both ventricular infarction and coronary artery disease as exclusion criteria as coronary artery disease will cover both.

Author's response: Thank you for your comments. As you said, coronary artery disease includes ventricular infarction, so we will not list ventricular infarction separately in the exclusion criteria.

Thanks!

Reviewer: 2

Reviewer Name: Veronika van der Wardt

Institution and Country:

Philipps-Universität Marburg

Germany

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Good study but the protocol needs some work:

Major issues:

The language (grammar, typos, tenses) needs improvement. People with cognitive frailty should be referred to as such (person first language).

Author's response: Thank you for your comments. We committed our manuscript to American Journal Experts to professionally edit the phrasing and grammar. Thanks!

The background, purpose, hypothesis and Analysis for the MRI study part needs to be described in more detail.

Author's response: Thank you for your comments. We have added the details of MRI in the method section, please check them. Thanks!

Withdrawal criteria need more detailed definitions

Author's response: Thank you for your comments. We have further clarified the Withdrawal criteria, "cognitive decline in accordance with age and education" is defined as "MoCA \leq 26 points". Thanks!

AEs and SAEs need clarification: how are they monitored, definitions need to be added, how will it be determined if they are related or unrelated to the intervention?

Author's response: Thank you for your comments. This study is a community-based group intervention, each intervention has coach guidance, and there is a research assistant to supervise the implementation. Adverse events were recorded by the research assistant. The adverse events related to exercise were sports injury, fall and so on. Other adverse events refer to the consequences not directly caused by exercise intervention, like participants fall at home, etc. Thanks!

In the Analysis section, the analysis plan needs more detail and the approach for missing data needs to be included.

Author's response: Thank you for your comments. We have described the statistical analysis in more detail, please check them. Thanks!

The Discussion section should be shortened

Author's response: Thank you for your comments. We have abridged the discussion, please check them. Thanks!

While the study is already ongoing, the research group might consider organizing an independent Steering Group Committee to support the research (unless it has one, then it should be reported).

Author's response: Thank you for your comments. This study was supported by an independent steering group committee, is the academic committee of rehabilitation college of Fujian University of Traditional Chinese Medicine. Thanks!

Minor issues:

Baduanjin and Qi should be described in more detail, how it qualifies as aerobic exercise and what benefits it has.

Author's response:

There is a discrepancy between abstract and description of the in-between follow-up point of time on page 5 (13weeks vs 17 weeks). Needs clarification

Author's response: Thank you for your comments. We examined the manuscript and found that this was a clerical error. The intervention period of this study was 24 weeks, so the mid-term evaluation was conducted at week 13. We have corrected this mistake. Please check them. Thanks!

Page 5: diagnostic criteria: how is cognitive decline according to age and education assessed?

Author's response: Thank you for your comments. We have further clarified the diagnostic criteria, "cognitive decline in accordance with age and education" is defined as "MoCA \leq 26 points". Thanks!

Page 6: who will complete recruitment and screening?

Author's response: Thank you for your comments. This study will be recruited and screened by community doctors. We have modified the corresponding text, please check them. Thanks!

Page 6: where will assessments take place?

Author's response: Thank you for your comments. The screening assessment will be conducted in the community health service center. We have modified the corresponding text, please check them.

Thanks!

What do 'basic characteristics' refer to?

Author's response:

Page 8: Primary outcomes: EFS score of 5 should be classified as non-frail; 6 or above can be classified as frail. Why is this classified and not reported as continuous variable or in the categories as reported by the scale developers?

Author's response: Thank you for your comments. The EFS score is a continuous variable with a total score of 17, and a higher score means that participants are more frail. 5 is a cutoff value, and EFS scores of all participants in this study are greater than 5. Thanks!

VERSION 2 – REVIEW

REVIEWER	Asangaedem Akpan Liverpool University Hospitals NHS FT United Kingdom
REVIEW RETURNED	16-Mar-2020

GENERAL COMMENTS	Thank you for addressing our recommendations.
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REVIEWER	Veronika van der Wardt Department of Primary Care, preventive and rehabilitative Medicine; Philipps-University Marburg, Germany
REVIEW RETURNED	16-Mar-2020

GENERAL COMMENTS	Just minor revisions: MRI study: Background for MRI study still missing (why is this done, what other research has been done in this area, how does this lead to a research question and what is the hypothesis?). AEs and SAEs: How will the research assistant be made aware of AEs/SAEs? Will the participants be given a form to self-monitor?
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VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Author's response: Thank you for your comments.

Reviewer: 2

Reviewer Name: Veronika van der Wardt

Institution and Country: Department of Primary Care, preventive and rehabilitative Medicine; Philipps-University Marburg, Germany

Please state any competing interests or state 'None declared': none declared

Please leave your comments for the authors below

Just minor revisions:

MRI study: Background for MRI study still missing (why is this done, what other research has been done in this area, how does this lead to a research question and what is the hypothesis?).

Author's response: Thank you for your comments.

We had added following sentences in the section of "Introduction"

At the beginning of third paragraphs: "With the development of Morphometric magnetic resonance imaging (MRI) technology, the robust imaging biomarkers for diseases related brain damage have educed the potential for clinical impact. For example, the MRI studies have established the association of cognitive impairment and either morphometric or functional connectivity changes of brain. Previous studies reported reductions in the volumes and dysfunction in connectivity of the whole hippocampus, medial temporal lobe and entorhinal cortex in the brains of older adults with cognitive impairment compared to healthy subjects [Gu L, Zhang Z. Exploring Structural and Functional Brain Changes in Mild Cognitive Impairment: A Whole Brain ALE Meta-Analysis for Multimodal MRI. ACS Chem Neurosci. 2019;10(6):2823-2829. Anatürk M, Demnitz N, Ebmeier KP, Sexton CE. A systematic review and meta-analysis of structural magnetic resonance imaging studies investigating cognitive and social activity levels in older adults. Neurosci Biobehav Rev. 2018;93:71-84.]. Although few studies focus on cognitive frailty, there have reported degenerations compatible with cognitive impairment."

At the ending of third paragraphs, following sentence is added:

Therefore, we can infer that the impact of Baduanjin exercise on the morphology or functional connection of related-brain region in the older adults with cognitive frailty may be an important mechanism for improving cognitive frailty.

AEs and SAEs: How will the research assistant be made aware of AEs/SAEs? Will the participants be given a form to self-monitor?

Author's response: Thank you for your comments.

In this trial, participants in the Baduanjin training group will be gathered at empty field of community to practice Baduanjin training by the supervising and guiding of professional coach. Therefore, in the training spot during intervention period, the research assistant and exercise coach will supervise participants' training. If the adverse events (AEs) occur, they can treat and report timely. The subjects in the control group will not receive any specific exercise intervention, and will be asked to maintain their original lifestyle. Their AEs or SAEs will be obtained by research assistant through telephone and WeChat follow-up.

VERSION 3 – REVIEW

REVIEWER	Veronika van der Wardt Philipps-Universität Marburg, Germany
REVIEW RETURNED	24-Mar-2020
GENERAL COMMENTS	Thanks, that addressed my comments sufficiently.